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PRE-APPEAL BRIEF REQUEST FOR REVIEW		Docket Number (Optional)	
I hereby certify that this correspondence is being electronically transmitted to the USPTO via EFS from the Pacific Time zone on <u>April 30, 2007</u>		Application Number	Filed
Signature <u>Vickie Ishimaru</u>		10/721,916	11/24/2003
Typed or printed name <u>Vickie Ishimaru</u>		First Named Inventor	
		Ararao et al.	
		Art Unit	Examiner
		2813	Thanh T. Nguyen
<p>Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.</p> <p>This request is being filed with a notice of appeal.</p> <p>The review is requested for the reason(s) stated on the attached sheet(s). Note: No more than five (5) pages may be provided.</p> <p>I am the</p> <p><input type="checkbox"/> applicant/inventor.</p> <p><input type="checkbox"/> assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)</p> <p><input checked="" type="checkbox"/> attorney or agent of record. Registration number <u>27,449</u></p> <p><input type="checkbox"/> attorney or agent acting under 37 CFR 1.34. Registration number if acting under 37 CFR 1.34. _____</p> <p>NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.</p> <p><input type="checkbox"/> *Total of _____ forms are submitted.</p>			

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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

*In re* Application of: Virgil Cotoco Ararao, et al. : Confirmation No.: 6546  
Serial No.: 10/721,916 : Art Unit: 2813  
Filed: 11/24/2003 : Examiner: Thanh T. Nguyen  
For: FABRICATION METHOD :  
FOR SEMICONDUCTOR  
PACKAGE HEAT  
SPREADERS

Mail Stop AF  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**ARGUMENTS IN SUPPORT OF PRE-APPEAL BRIEF REQUEST FOR REVIEW**

Sir/Madam:

The following Arguments are submitted under the Pre-Appeal Brief Conference Pilot Program with a Pre-Appeal Brief Request for Review and Notice of Appeal in response to the Advisory Action mailed March 19, 2007. The Applicants filed a Response on February 23, 2007, within two months of the January 29, 2007, Final Office Action.

The pending claims 1-10 and 21-30 are set forth in the Applicants' Amendment dated April 21, 2006, at pages 2-6, which was entered through the RCE on May 19, 2006.

**ISSUE PRESENTED**

Did the Examiner err in an attempt to create a *prima facie* case of anticipation under 35 U.S.C. §102 by citing a reference that does not disclose a heat spreader plate that has a cross-sectional profile that is substantially constant along at least one horizontal direction that is perpendicular to the cross-sectional profile of the plate?

**ARGUMENT**

The Examiner has not established a *prima facie* case of anticipation under 35 U.S.C. §102. There is no disclosure, teaching, or suggestion in the cited prior art reference, Hawthorne, of a heat spreader plate that has a cross-sectional profile that is

substantially constant along at least one horizontal direction that is perpendicular to the cross-sectional profile of the plate. The Examiner's assertion of an unchanging cross-sectional profile, as the profiles are compared in a horizontal series across Hawthorne's heat spreader plate, is without factual basis or support in the record. Instead, the Examiner's position appears to result from a misunderstanding of Hawthorne's Figure 4. This is reversible error that will be overturned on appeal.

**Claims 1-10 and 21-30 are rejected under 35 U.S.C. §102(b) as being anticipated by Hawthorne et al. (U.S. Patent No. 6,008,991, hereinafter "Hawthorne").**

Hawthorne discloses a packaged integrated circuit with heat spreading standoff support members. The heat spreader includes fixed standoff and/or alignment pins and a raised central die receiving section, as described at column 5, lines 29–33:

"The heat spreader is either molded or stamped in the configuration shown, having a somewhat raised central die receiving section 68 surrounded by lateral sections 70, each of which is formed with an integral standoff pin, such as standoff pins 72a,72b." [underlining for clarity]

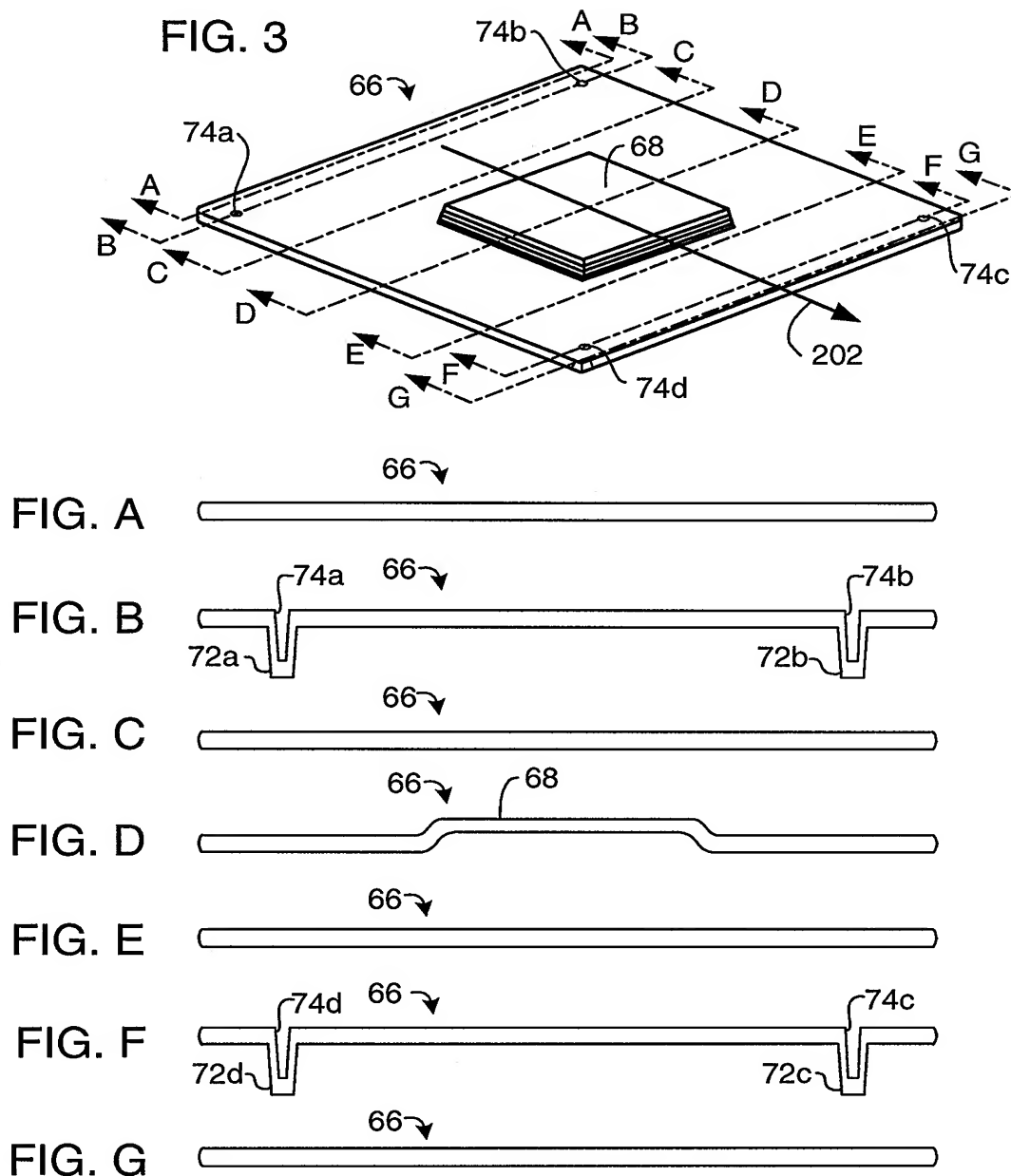
From this description, and as shown below, it can be seen that Hawthorne's heat spreader has a changing topography that results in changes in Hawthorne's cross-sectional profile in any and all horizontal directions, as cross-sections are taken and compared at various horizontal displacements.

This contrasts with the Applicants' claimed combination, as exemplified in claim 1, which includes the relevant limitation not disclosed in Hawthorne of:

"a cross-sectional profile of the plate that is substantially constant along at least one horizontal direction that is perpendicular to the cross-sectional profile of the plate"

To appreciate this distinction, the changing topography of Hawthorne's heat spreader can be understood by reference to Hawthorne's FIG. 3, concerning which the Applicant's have prepared a series of cross-sections A–G (below) to graphically illustrate the dramatic non-constant differences in Hawthorne's cross-sectional profiles along the horizontal direction of arrow 202.

Please note that arrow 202 is the same horizontal arrow that is shown and explicitly defined in the present application at page 6, lines 18-20 of the specification.



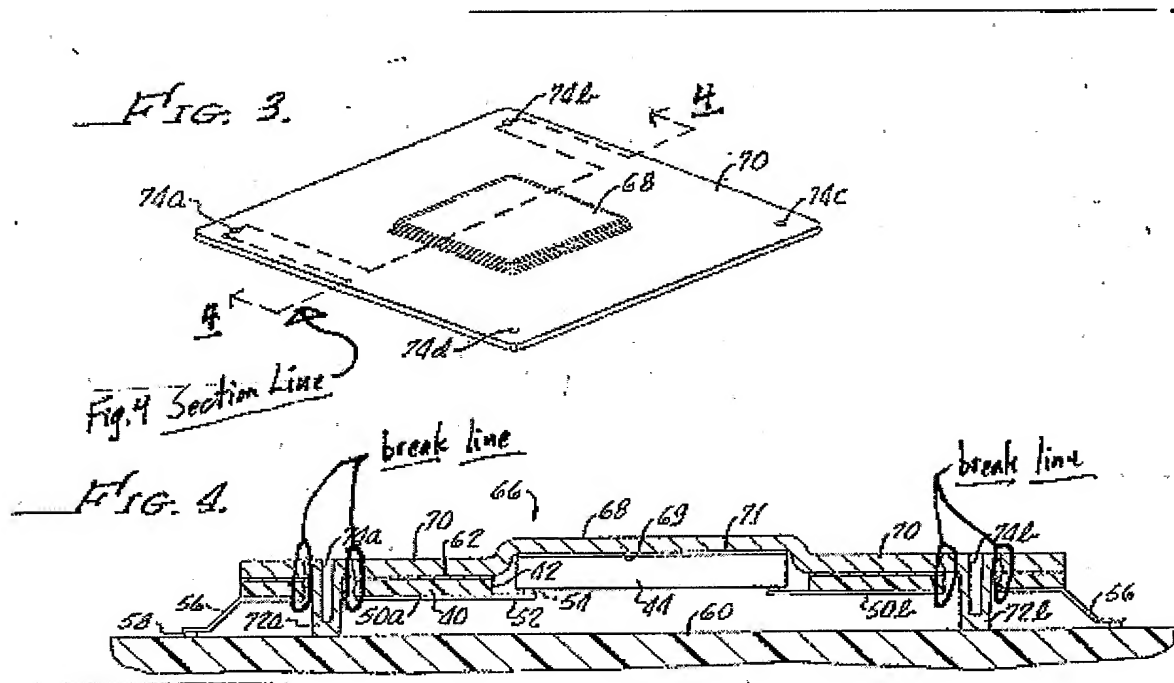
Clearly, Hawthorne's cross-sectional profile is not substantially constant, but changes significantly "along [every] horizontal direction that is perpendicular to the cross-sectional profile of the plate" (cf. independent claims 1, 9, 21, and 29).

The Examiner has persistently attempted to convert Hawthorne's FIG. 4 into an embodiment different from that in the other FIGs. However, Hawthorne clearly states that:

"FIG. 4 is a sectional side elevation of the package of FIG. 3;" (column 3, lines 41-42) [underlining for clarity]

To this purpose, the Examiner has argued that scale does not matter, when in fact it is patently clear that no matter what the scale, Hawthorne has a changing topography that produces significantly changing cross-sectional profiles across the heat spreader.

To this purpose also, the Examiner has further ignored the clear sectional breaks in Hawthorne's FIG. 4, to the immediate left and right of each pin 72a and 72b, that Hawthorne has provided to reveal both the central profile of the FIG. 3 heat spreader as well as the cross-sectional profiles of the pins to the rear. To this point, please consider the following markups of Hawthorne's FIGS. 3 and 4:



Those sectional breaks in FIG. 4 are critical to reconciling FIG. 4 with FIG. 3. (Recall: "FIG. 4 is a sectional side elevation of the package of FIG. 3;") Otherwise, FIG. 4 makes no sense, because no unbroken (straight line) cross section of FIG. 3 will produce anything like FIG. 4.

Nevertheless, although Hawthorne has made it explicitly clear that FIGS. 3 and 4 are the same embodiment, and although Hawthorne has explicit and clear section breaks and break lines in FIG. 4, the Examiner has insisted that FIG. 4 is a straight line section taken directly between pin 72a (at depression 74a) and pin 72b (at 74b). This is manifestly erroneous and will be promptly overturned on appeal.

From the above, and because the Hawthorne heat spreader is quadrilaterally symmetrical, it is obvious that a representative Hawthorne cross-sectional profile is shown in FIG. A, above, and that the arrow 202 is a horizontal direction perpendicular to that cross-sectional profile. It is also obvious that the Hawthorne cross-sectional profile changes from FIG. A to FIG. B, from FIG. B to FIG. C, from FIG. C to FIG. D, from FIG. D to FIG. E, from FIG. E to FIG. F, and from FIG. F to FIG. G along the horizontal direction. Even when accounting for scale, one having ordinary skill in the art would not consider the cross-sectional profile to be substantially constant:

“Although the PTO must give claims their broadest reasonable interpretation, this interpretation must be consistent with the one that those skilled in the art would reach.” *In re* Cortright, 165 F.3d 1353, 1358 (Fed. Cir. 1999), cited in *In re* American Academy of Science Tech Center, CAFC 03-1531, May 13, 2004. [underlining for clarity]

### ***Conclusion***

It is respectfully submitted that the Examiner committed reversible error in an attempt to create a *prima facie* case of anticipation under 35 U.S.C. §102 by citing a reference that does not disclose a heat spreader plate that has a cross-sectional profile that is substantially constant along at least one horizontal direction that is perpendicular to the cross-sectional profile of the plate.

In view of the above, it is submitted that claims 1–10 and 21–30 are in condition for allowance and such action at an early date is solicited.

Respectfully submitted,



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Signature Vickie Ishimaru

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